

REMARKS

Claims 1, 3 – 6, 8 – 15, 17 – 21, and 23 – 25, and 27 – 38 are hereby presented for reconsideration and further examination in view of the foregoing amendments and following remarks. Claim 16 has been withdrawn as drawn to a non-elected species, and claim 2 was previously cancelled. Claims 22 and 26 are presently cancelled without prejudice or disclaimer. Claims 1, 17, 37, and 38 are presently amended.

In the outstanding Office Action, the examiner: objected to the drawings for failing to show various claim features, for improper use of reference characters, and for including reference characters not mentioned in the description; and objected to the specification for informalities.

Also, the Examiner:

- rejected claims 1, 3, 7 – 10, 14, 15, 17 – 19, 21, 25, 37, and 38 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 1,936,537 to Borden (hereinafter referred to as “Borden”);
- rejected claims 1 and 3 – 5 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 815,268 to Covell (hereinafter referred to as “Covell”);
- rejected claim 6 under 35 U.S.C. 103(a) as being unpatentable over Covell in view of U.S. Patent No. 5,386,844 to Kennedy (hereinafter referred to as “Kennedy”);
- rejected claims 11 – 13 under 35 U.S.C. 103(a) as being unpatentable over Borden in view of U.S. Patent No. 801,161 to Schutte et al. (hereinafter referred to as “Schutte”);
- rejected claims 20, 22 – 24, and 26 under 35 U.S.C. 103(a) as being unpatentable over Borden; and

- rejected claims 27 – 30 and 33 – 36 under 35 U.S.C. 103(a) as being unpatentable over Borden in view of U.S. Patent No. 4,770,201 to Zakai (hereinafter referred to as “Zakai”).

The Examiner also indicated that claims 31 and 32 would be allowable if rewritten in independent form to include all features of the base claim and intervening claims. This indication of allowable subject matter is noted with appreciation.

By way of the above amendments:

- the drawings, specification, and claim 17 are amended in a manner which, together with the present cancellations, is believed to obviate all of the Examiner’s objections to the drawings;
- claims 7, 22 and 26 are cancelled without prejudice or disclaimer, Applicants reserving the right to pursue the full scope of these claims in continuing applications or through enforcement of the present claims;
- independent claims 1, 37, and 38 are amended without prejudice in a manner which is believed to render these claims allowable over the cited art of record; and
- the Examiner’s rejections of claims 1, 3 – 6, 8 – 15, 17 – 21, and 23 – 25, and 27 – 38 as amended are traversed.

It is respectfully submitted that the above amendments introduce no new matter into the present application within the meaning of 35 U.S.C. 132.

Support for the amendments to claim 1 may be found in the specification as originally filed, including *inter alia*:

- fig. 1B, in which “the sealing assembly” is “internally received within the housing, when in the open position”;

- page 3, lines 20 and 21, and the original drawings, in which the external support lever mechanism is "pivotally attached" to the housing;
- page 7, lines 16 and 17, where it is stated that "float member 46 is pivotally secured at 86 to said pivot bar 80"; and
- original claim 7, hereby cancelled, which defined that a "pivotal attachment allows the sealing assembly freedom to self align with the valve seating at a closed position"

Support for the amendments to claim 17 may be found *inter alia* on page 9, lines 3 – 8 and page 9, line 29 through page 10, line 14.

Support for the amendment to claims 37 and 38 may be found *inter alia* in original claim 7, now cancelled.

OBJECTIONS TO THE DRAWINGS

On pages 2 and 3 of the Outstanding Office Action, the Examiner objected to the drawings for failing to show the following features:

- A. the "control mechanism for adjusting the moment of rotation about a pivoted end in claim 17";
- B. the "dampening arrangements of claim 18";
- C. the "suspension arrangement of claims 19 and 20";
- D. "that the support lever is received within a water tight casing of claim 22";
- E. the "screen of claim 24"; and
- F. the "indicator with indicia on the support level of claim 26."

Also, the Examiner:

- G. objected to the use of reference characters 118 and 119 to both designate a pivot axle, in particular in Figure 7C;
- H. objected to the use of reference character “128” in Figure 7C, the Examiner asserting that this reference character should be “129”; and
- I. objected to the use of reference character 330 in Figure 8B, where this reference character is not mentioned in the description.

RESPONSE

By this response and amendment, Applicants:

- A. amend claim 17 to replace the term “control mechanism” with the term “pre-loading mechanism,” presently designated by element number 101 in the specification and drawings;
- B. submit that the “dampening arrangements” of claim 18 correspond clearly with the “coiled spring 113 for dampening...the sealing assembly” as recited on page 9, lines 23 and 24 of the specification as filed, and as shown in FIGs. 6A – 6C;
- C. submit that the “suspension arrangement” of claims 19 and 20 corresponds clearly with the disclosure of page 10, lines 15 – 20 of the specification as filed, and that one of skill in the art would, upon reading the above passage, understand the meaning of the claimed feature without need for a specific drawing thereof;
- D. cancel claim 22 without prejudice or disclaimer;
- E. submit that the “screen” of claim 24 corresponds clearly with the disclosure of page 9, lines 9 – 14 of the specification as filed, and that one of skill in the art would, upon reading the

above passage, understand the meaning of the claimed feature without need for a specific drawing thereof;

- F. cancel claim 26 without prejudice or disclaimer;
- G. amend reference character 118 in Figure 7C to "119" as suggested by the Examiner;
- H. amend reference character 128 in Figure 7C to "129" as suggested by the Examiner; and
- I. remove reference character 330 from Figure 8B, as suggested by the Examiner.

Applicants respectfully submit that the above amendments and clarifications obviate all of the Examiner's objections to the drawings. Nevertheless, should further amendment or clarification be needed, Applicants proffer such amendments as might place the application in condition for issuance, concurrent with payment of the Issue Fee, in response to a Notice of Allowance.

OBJECTIONS TO THE SPECIFICATION

In the Outstanding Office Action, the Examiner objected to the specification for informalities at page 1, line 18; page 10, line 9; and page 10, line 16.

RESPONSE

By this response and amendment, Applicants have amended the specification in the manner suggested by the Examiner to correct *inter alia* all of the above informalities.

Applicants submit that the above amendments obviate all of the Examiner's objections to the Specification.

REJECTIONS UNDER 35 U.S.C. 102(b)

In the outstanding Office Action, the Examiner rejected claims 1, 3, 7 – 10, 14, 15, 17 – 19, 21, 25, 37, and 38 under 35 U.S.C. 102(b) as being anticipated by Borden; and rejected claims 1 and 3 – 5 under 35 U.S.C. 102(b) as being anticipated by Covell.

RESPONSE

Reconsideration and withdrawal of the rejections are requested.

For a reference to anticipate an invention, all of the elements of that invention must be present in the reference. The test for anticipation under section 102 is whether each and every element as set forth in the Claim is found, either expressly or inherently, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); MPEP §2131. The identical invention must be shown in as complete detail as is contained in the Claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP §2131.

Borden

Borden is drawn to a combination air-vacuum valve and air-release valve. In Borden, “[t]he float (7) carrying the valve closure [equated by the Examiner with the claimed sealing assembly] (8) is guided to the seat [equated by the Examiner with the claimed valve seating] (9) by the guiding means comprising the hollow tube (4) and sleeve (3)” (see Borden, page 1, lines 48-50). Thus the sealing assembly of Borden is guided along the linear tube (4, see figure) and hence moves in a linear manner.

Claim 1

Claim 1 has been amended, and now recites a gas purge valve comprising *inter alia* “a housing” and a “sealing assembly...*internally received within the housing, when in the open position* [and] supported by an external support lever mechanism extending outside said housing and *pivotally attached thereto*”. The gas purge valve further comprises a float member “*pivotally secured to said sealing assembly within the housing.*” This pivotal attachment “*allows the sealing assembly freedom to self align with the valve seating [of the housing outlet] at a closed position.*”

Support for these features is given above.

It is noted that claims 3 – 5, 7 – 10, 14, 15, 17 – 19, 21, and 25 all depend directly or indirectly from claim 1. Therefore, if the cited art does not anticipate claim 1, it does not anticipate any of these claims dependent therefrom.

Borden does not disclose, teach, or suggest a float member “pivotally secured to said sealing assembly within the housing” which thereby “allows the sealing assembly freedom to self align with the valve seating [of the housing outlet] at a closed position.” as recited in amended claim 1.

The pivotal attachment recited in claim 1 provides distinct advantages over the linear configuration of Borden. Linear displacement, as in accordance with Borden, is prone to malfunction even by small particles of dirt. In contradistinction, the pivotal attachment defined in Claim 1 of the present application, as amended, allows the sealing assembly freedom to pivot and self-align with the valve seating at a closed position. Such freedom applies a large moment of force which more easily overcomes obstacles such as particles of dirt.

Applicants further submit that the presently claimed valve configuration more generally offers advantages over the configuration of Borden. In particular, the valve identified by the Examiner in Borden is an air-vacuum valve “capable of automatically breaking a vacuum which may occur... as a result of sudden drainage” (see Borden, page 1, lines 2-5) and therefore does not provide an extra capability of facilitating gas flow therethrough at low flow rates, as does the presently disclosed structure (see, e.g., page 4, line 3 of the specification as filed). Notably, to facilitate gas flow therethrough at low flow rates, Borden requires an additional valve (“air release valve,” see Borden, page 2, lines 31-35).

Therefore, as Borden does not disclose, teach, or suggest all the features of Claim 1 as amended, and moreover as the presently claimed configuration offers distinct advantages not suggested by that proposed by Borden, Applicants respectfully submit that Borden does not anticipate nor would render obvious present claim 1, nor any claim dependent therefrom.

Claims 17 and 18

Claim 17, dependent from claim 1, has been amended, and now recites that the “support lever is provided with a *pre-loading mechanism* for adjusting the moment of rotation about a pivoted end thereof.”

Claim 18, dependent from claim 1, includes the feature of “*dampening arrangements* to dampen displacement of the sealing assembly.”

The Examiner cites “counterweight” 13 of Borden as anticipating both of these features, identifying the “counterweight” as a “control mechanism” as previously recited in claim 17, and suggesting that “the weight slows the opening of the valve” and hence constitutes a dampening

arrangement. These identifications, and the rejections based thereon, are independently traversed.

Applicants respectfully submit that even if *arguendo* the counterweight could have been construed as a “control” mechanism, it clearly does not serve as a “pre-loading mechanism” as set forth in claim 17.

Further, even if *arguendo* the counterweight affects the speed at which the valve opens, this speed does not necessarily relate to the concept of dampening. The presently claimed structure is understood to provide a diminishing effect i.e. “to minimize motion transfer from the float member to the sealing assembly during swinging and buoyant motion of the float member” (see the present specification, page 9, lines 24-26). The counterweight does *not* minimize motion transfer and thereby provide the structure claimed in claim 18, but merely regulates the motion transfer to a selected speed.

Therefore, as Borden does not disclose, teach, or suggest all the features of Claims 17 or 18, and moreover as the presently claimed configuration offers distinct advantages not suggested by that proposed by Borden, Applicants respectfully submit that Borden does not anticipate nor would render obvious present claims 17 or 18.

Claims 37 and 38

Claim 37 has been amended, and now recites a “gas purge valve” comprising, *inter alia*, a “housing fitted with an inlet [and an] outlet formed with a valve seating,” and a “sealing assembly ... carried at a first end of an external support lever having a second end thereof pivotally attached to the housing *allowing the sealing assembly freedom to self align with the valve seating at a closed position.*”

Claim 38 too has been amended, and not recites a “gas purge valve” comprising, *inter alia*, a “housing having a valve inlet and a valve outlet,” a “valve seating defined at said valve outlet,” and a sealing assembly comprising *inter alia* “an external support lever pivotally secured at a first end to the housing *allowing the sealing assembly freedom to self align with the valve seating at a closed position*, and having a second end articulated to the sealing assembly.”

In the outstanding Office Action, the Examiner did not provide a specific rejection of these independent claims over Borden, and did not identify any of the features of claims 37 or 38 with elements of Borden.

Applicants respectfully request that, going forward, the Examiner provide specific detail on any rejections of these claims, including at least an identification of each and every claim feature in the cited art, the most basic requirement for an anticipation rejection.

Nevertheless, Applicants submit that Borden does not disclose, teach, or suggest the features of claims 37 and 38 as amended. As discussed above, Borden does not disclose, teach, or suggest a float member “pivotally attached” or “pivotally secured,” which “allows the sealing assembly freedom to self align with the valve seating [of the housing outlet] at a closed position” as recited in amended claims 37 and 38. Also, as discussed above, this configuration offers distinct advantages not realized in Borden.

Therefore, as Borden does not disclose, teach, or suggest all the features of Claims 37 and 38 as amended, and moreover as the presently claimed configuration offers distinct advantages not suggested by that proposed by Borden, Applicants respectfully submit that Borden does not anticipate nor would render obvious present claims 37 and 38.

Covell

Covell is drawn to an automatic air-relief for pipe-lines, in which a “turning-plug vent-valve or outlet valve or cock 17” is “engaged with the upper end of ...pipe 16” and has “a lever 18 for oscillating the plug to open and close the valve”. In Covell, the outlet valve 17 (equated by the Examiner with the claimed valve seating) is externally mounted on the pipe (equated by the Examiner with the claimed outlet). It is noted that the Examiner equates levers 18 and 24 with the claimed “external support lever mechanism.”

Claim 1

As noted above, Claim 1 has been amended, and now recites a gas purge valve comprising *inter alia* “a housing” and a “sealing assembly...*internally received within the housing, when in the open position* [and] supported by an external support lever mechanism extending outside said housing and *pivotally attached thereto*”. The gas purge valve further comprises a float member “*pivotally secured to said sealing assembly within the housing.*” This pivotal attachment “*allows the sealing assembly freedom to self align with the valve seating [of the housing outlet] at a closed position.*”

Covell does not disclose, teach, or suggest an “external support lever mechanism extending outside said housing” and a sealing assembly "internally received within the housing, when in the open position" as recited in amended claim 1.

Since the levers (18) and (24) and the equivalent seating assembly (17) of Covell are all externally disposed with respect to the outlet (16), it cannot followed that Covell both discloses an “external support lever mechanism extending outside said housing” and a sealing assembly

"internally received within the housing, when in the open position."

The external support lever mechanism and sealing assembly recited in claim 1 together provide distinct advantages over that of Covell. These claimed features help the claimed the sealing assembly freedom to self-align with the valve seating at a closed position and more easily overcome obstacles such as particles of dirt from causing malfunction of the valve of the present disclosure, as discussed above with reference to Borden.

Applicants further submit that the presently claimed valve configuration more generally offers advantages over the configuration of Covell. It is noted that Covell is an air relief valve and therefore does not provide an extra capability of facilitating gas flow therethrough at high flow rates, as does the presently disclosed structure (see the present specification, page 8, lines 23-25).

Therefore, as Covell does not disclose, teach, or suggest all the features of Claim 1 as amended, and moreover as the presently claimed configuration offers distinct advantages not suggested by that proposed by Covell, Applicants respectfully submit that Covell does not anticipate nor would render obvious present claim 1, nor any claim dependent therefrom.

Reconsideration and withdrawal of all rejections under 35 U.S.C. 102(b) are respectfully requested.

REJECTIONS UNDER 35 U.S.C. 103(a)

In the outstanding Office Action, the Examiner rejected claim 6 under 35 U.S.C. 103(a) as bring unpatentable over Covell in view of Kennedy; rejected claims 11 – 13 under 35 U.S.C. 103(a) as bring unpatentable over Borden in view of Schutte; rejected claims 20, 22 – 24, and 26 under 35

U.S.C. 103(a) as bring unpatentable over Borden; and rejected claims 27 – 30 and 33 – 36 under 35

U.S.C. 103(a) as being unpatentable over Borden in view of Zakai.

RESPONSE

To establish a prima facie case of obviousness, the Examiner must establish: (1) that some suggestion or motivation to modify the references exists; (2) a reasonable expectation of success; and (3) that the prior art references teach or suggest all of the Claim limitations. *Amgen, Inc. v. Chugai Pharm. Co.*, 18 USPQ2d 1016, 1023 (Fed. Cir. 1991); *In re Fine*, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 USPQ 494, 496 (CCPA 1970).

It is respectfully submitted that none of Kennedy, Schutte, and Zakai cure the above deficiencies of Borden and Covell. In particular, none of Borden, Covell, Kennedy, Schutte, Zakai, taken in any combination, disclose, teach, or suggest an “external support lever mechanism extending outside [a] housing” and a sealing assembly “internally received within the housing, when in the open position” as recited in amended claim 1. Thus, each of claims 6, 11 – 13, 20, 23, 24, 27 – 30, and 33 – 36 should be allowable at least for its dependence from claim 1. (Claims 22 and 26 have been cancelled.)

Further, regarding Claim 6, which the Examiner states is unpatentable over Covell in view of the spring (11) of Kennedy, it is noted that the spring (11) of Kennedy is “a torsion spring (11) which assists the buoyant effect of said float (19)... thereby providing an additional force which would be equivalent to that created by a larger float.” (Col. 3, lines 48-53). Thus, the spring (11) of Kennedy does not “dampen motion” as recited in Claim 6. As noted above, dampening is set forth in the

specification as a diminishing effect i.e. "to minimize motion transfer from the float member to the sealing assembly during swinging and buoyant motion of the float member" (see the present specification, page 9, lines 24-26). The spring (11) of Kennedy does not perform this function, and therefore the combination of Covell and Kennedy does not render obvious claim 6.

Similarly, regarding Claim 20, which the Examiner claims is unpatentable over Borden, Applicants traverse the Examiner's statement that it would be obvious to "replace the counterweight of Borden with a viscous or visco-elastic dampening assembly," since (again, as discussed above) a counterweight is not equivalent to any type of dampening assembly, since a counterweight does not have the effect of "minimiz[ing] motion transfer from the float member to the sealing assembly during swinging and buoyant motion of the float member" (see the present specification, page 9, lines 24-26). The counterweight of Borden does not perform this function, and therefore Borden does not render obvious claim 20.

Regarding Claim 23, the Examiner appears to have omitted a portion of the rejection thereof. Applicants again request that, going forward, the Examiner provide specific detail on any rejections of these claims, including at least an identification of each and every claim feature in the cited art, or alternately which features are deemed obvious additions, the most basic requirement for an obviousness rejection.

Reconsideration and withdrawal of all rejections under 35 U.S.C. 103(a) are requested.

CONCLUSION

In light of the foregoing, Applicants submit that the application is now in condition for

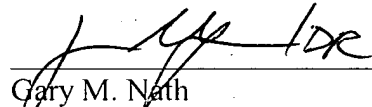
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allowance. If the Examiner believes the application is not in condition for allowance, Applicants respectfully request that the Examiner contact the undersigned attorney if it is believed that such contact will expedite the prosecution of the application.

Respectfully submitted,
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APPENDIX